Chapter 11
# Alternatives Considered

## Introduction

CEQA requires that an EIR describe a range of reasonable alternatives to the proposed project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts, while substantially attaining the basic objectives of the project. An EIR should also evaluate the comparative merits of the alternatives. This chapter sets forth potential alternatives to the proposed project and evaluates them as required by CEQA.

Key provisions of the *State CEQA Guidelines* (Section 15126.6) pertaining to the alternatives analysis are summarized below.

The discussion of alternatives shall focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if those alternatives would impede to some degree the attainment of the proposed project objectives or would be more costly.

The No-Project Alternative shall be evaluated along with its impact. The No-Project analysis shall discuss the existing conditions at the time the NOP is published as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved based on current plans and consistent with available infrastructure and community services.

The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.

For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need be considered for inclusion in the EIR.

An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner designed to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in the *State CEQA Guidelines*, Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

# Proposed Project Goals and Objectives

The purpose of the proposed project is to restore and enhance the ecological conditions of Malibu Lagoon and improve public access and education about the lagoon. The plan presents information regarding the current condition of the lagoon, goals and strategies for the restoration, and implementation and monitoring details, which are the result of extensive discussion and cooperation between the Coastal Conservancy and DPR, along with the Lagoon Technical Advisory Committee and Lagoon Restoration Working group.

The Lead Agency has identified the following major objectives for the proposed project:

- Decrease urban runoff from surrounding sources into the lagoon to improve its water quality and decrease eutrophication.
- Increase circulation of water during open and closed conditions.
- Restore habitat by re-establishing suitable soil conditions and native plant species and removing non-native species.
- Relocate existing parking lot to increase habitat size and utilize permeable surfaces.
- Evaluate, record, and analyze existing and changing ecological conditions of the lagoon using physical, chemical, and biological parameters to allow agencies, organizations, and stakeholders to monitor progress towards restoration goals.

# Alternatives Considered

The alternatives considered in this chapter are detailed in the *Malibu Lagoon Restoration Feasibility Study Final Alternatives Analysis* (March 2005), prepared by Moffat and Nichol in association with Heal the Bay. The purpose of the *Alternatives Analysis* was to narrow down a range of alternatives that would achieve the desired restoration goals as defined by the Malibu Lagoon Task Force. The alternatives were developed and evaluated according to how effective they address the following issues: circulation, sedimentation, nutrient cycling, eutrophication, and habitat.

The *Final Alternatives Analysis* document can be viewed online at: http://www.healthebay.org/currentissues/mlhep/default.asp.

All of the considered alternatives were tested for their performance in relation to existing conditions as well as one another in order to quantify potential benefits. Alternative 1.5 from the *Alternatives Analysis* was ultimately found to be the best option and was thus carried forward as the proposed project and subject of this EIR as the alternative that would best achieve the desired goals, while resulting in the least amount of impact to the existing lagoon habitat.

# Evaluation of Alternatives to the Proposed Project

For each alternative described below, a summary discussion[1] is provided of that alternative's potential impacts. A summary comparison of alternatives is also provided in Table 11-1 below. The table compares each of the project alternatives to the proposed project and states whether the alternative would result in a similar, greater, or lesser impact than the proposed project for each impact category.

Table 11-1. Comparative Environmental Analysis of Alternatives

| Resource Area | Proposed Project (after mitigation) | ALTERNATIVES TO THE PROPOSED PROJECT | | | |
|---|---|---|---|---|---|
| | | No Project/ No Build | Enhancement (1.0) | Restore/Enhance Modified with the North Channel (1.75) | Restore and Enhance Alternative (2.0) |
| Cultural resources | Less-Than-Significant Impact | No Impact | Similar Impact | Similar Impact | Similar Impact |
| Biological Resources | Beneficial Impact | No Impact | Lesser Beneficial Impact | Similar Beneficial Impact | Similar Beneficial Impact |
| Hydrology and Water Quality | Beneficial Impact | Negative impact | Potentially Negative Impact | Greater Beneficial Impact | Similar Beneficial Impact |
| Consistency With Local and Regional Plans | No impact | No Impact | No Impact | No Impact | No Impact |
| Construction Effects | Significant Impact (Noise Only) | No Impact | Lesser Impact | Similar Impact | Similar Impact |

Source: Jones & Stokes, 2005.

[1] In accordance with the *State CEQA Guidelines*, Section 15626.6(d), the discussion of the environmental effects of the alternatives may be less than that provided for the proposed project

More detailed discussions of the impacts of each alternative follow the summary table. In all cases, the comparison of impacts assumes that all feasible mitigation measures as identified in this document have been implemented for the impacts resulting from the proposed project. Similarly, in all cases where it can be safely assumed that there are feasible mitigation measures for impacts caused by the alternative, it is assumed that those mitigation measures would be implemented as well.

# No-Project Alternative

Section 15126.6 (e) of the *State CEQA Guidelines* requires the analysis of a No-Project Alternative. This No-Project analysis must discuss the existing condition as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not to be approved based on current plans, site zoning, and consistent with available infrastructure and community services. Because the proposed project is a development proposed project, Section 15126.6(e)(3)(B) of the *State CEQA Guidelines* is directly applicable.

If the proposed project is a development proposed project on an identifiable property, the No-Project Alternative is the circumstance under which the proposed project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects that would occur if the proposed project were approved.

If disapproval of the proposed project under consideration would result in predictable actions by others, such as the proposal of some other proposed project, this no-project consequence should be discussed. In certain instances, the No-Project Alternative means “no build” wherein the existing environmental setting is maintained. However, where failure to proceed with the proposed project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the proposed project’s non-approval and should not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

Under the No-Project Alternative, implementation of the Restoration and Enhancement Plan would not occur. The parking lot and lagoon would remain and continue to be used by the public in its existing state. As a consequence, the No-Project Alternative would not result in any of the beneficial effects of the proposed project.

**Biological Resources:** The No-Project Alternative would not remove any trees or vegetation or affect any nesting birds (a potentially significant but mitigable effect) as would occur under the proposed project. Biological restoration goals would not be achieved and habitat conditions would likely continue to degrade.

**Cultural Resources:** Since no new construction and no earth-moving would occur under this alternative, no impacts would occur to cultural resources.

**Hydrology and Water Quality:** Under the No Project Alternative, water quality would continue to degrade as sediment carried from storm flows is deposited in the lagoon area, thus contributing to aggradation and formation of eutrophic conditions. The No Project Alternative would not contribute to compliance with TMDL targets for nutrients and bacteria, thus, water quality would remain impaired and likely worsen over time.

**Consistency With Local and Regional Plans:** Since no new construction and no changes in land use would occur under this alternative, no land use impacts would occur.

**Construction Effects:** Under the No-Project Alternative the physical landscape of the area would not be altered. Therefore there will be no construction effects resulting from implementation of the No-Project Alternative.

# Alternative 1: Enhancement Alternative

The Enhancement Alternative (see Figures 11-1 and 11-2) was designed with the intent to improve existing conditions in the western lagoon arms with the least cost and least degree of disturbance to the existing lagoon habitat. The elevations of the channels in the western portion of the lagoon are too high to allow for inundation at ocean tidal elevations below mean sea level when the barrier beach berm is open. In addition the western channels are too narrow, constricted, and isolated from one another to allow for adequate circulation of lagoon water. The existing topography has resulted in an overabundance of upland habitat.

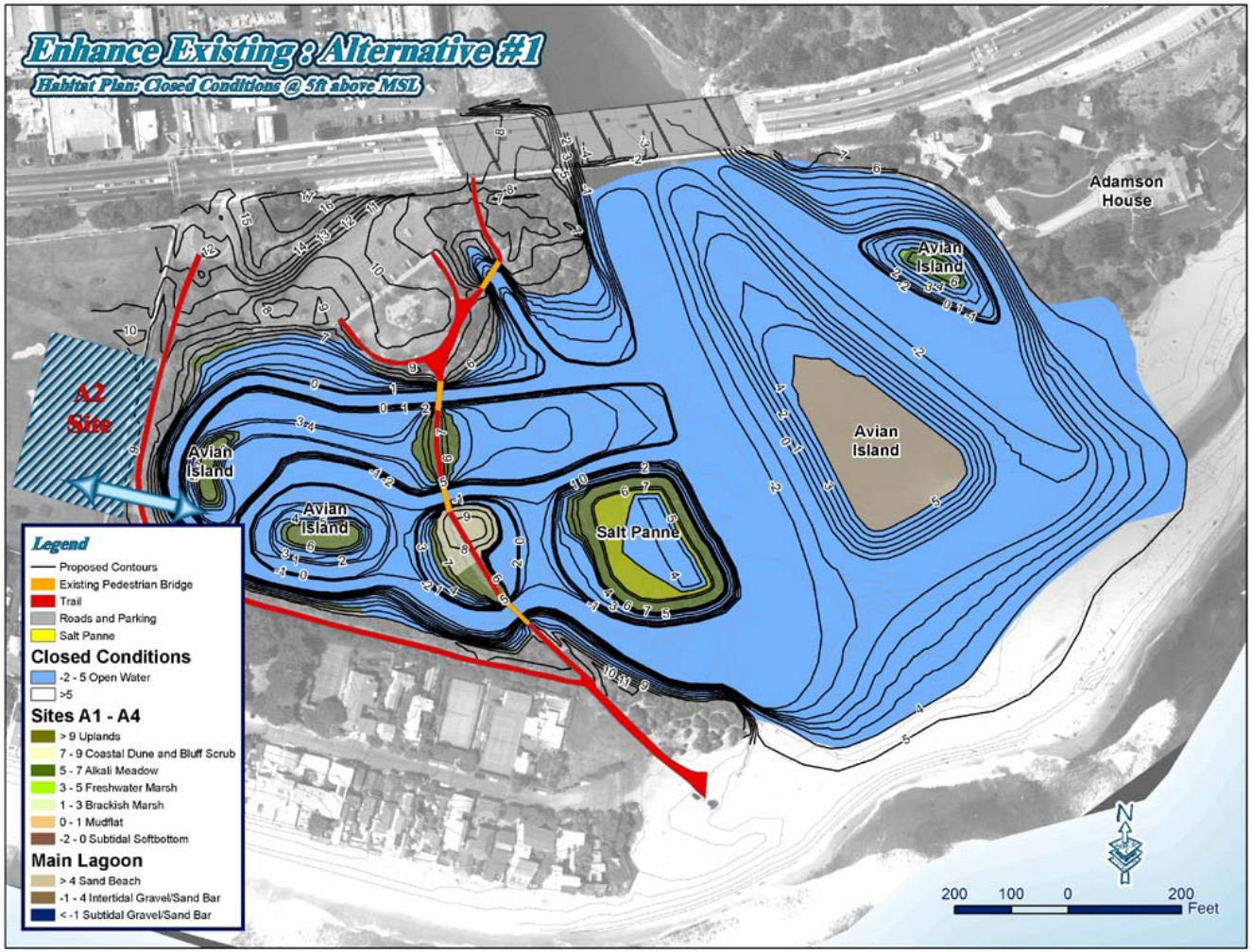
The enhancement alternative would lower the existing channels elevations, thus allowing for an increase tide indundation during open conditions. Topography of the channels and islands in the western lagoon would be lowered to accommodate vegetation types typically associated with coastal estuaries. Channel widths and depths would be increased and channels would be connected to remove existing dead ends.

Alternative 1 does not include improvements to the parking lot area or educational components.

Further discussion of Alternative 1 can be found in the *Malibu Lagoon Restoration Feasibility Study Final Alternatives Analysis* on pages 44 and 45.

Figure 11-1. Alternative 1: Habitat Plan Open Conditions at 1 Foot below MSL

Figure 11-2. Alternative 1: Habitat Plan Closed Conditions at 5 Feet above MSL



This alternative intends to:

- Improve circulation by expanding and deepening of existing channels in the western arms;
- Remove dead ends by connecting the A (north) channel to the C (south) Channel;
- Establish more appropriate marsh vegetation by lowering the elevation of western channels and islands to minimize upland habitat;
- Increase lagoon holding capacity during closed conditions;
- Provide additional bird habitat and minimize the need to export soils offsite by expansion of the mid-stream bar in the main lagoon body (no structural engineering is proposed to protect this bar).
- Provide unvegetated avian areas through the creation of a salt panne. The salt panne is intended to create an unvegetated area that uses a depression to capture water that will subsequently evaporate leaving behind higher salts in the soils that will minimize vegetative growth; and
- Minimize cost and disruption to existing lagoon habitats.

**Biological Resources:** Alternative 1 has the least capacity to accomplish desirable changes as it maintains, to a great extent, the existing lagoon platform, while providing for slight modifications to site elevation. This alternative would result in some improvements to the circulation and habitat quality within the lagoon. However, it would result in only a minor overall increase of an estimated 0.53-acre of wetland habitat.

Jurisdictional wetland impacts would occur as a result of reworking existing wetlands and uplands to restore or create new wetland and upland habitats. Although the overall footprint of change for Alternative 1 may be less than that occurring for the other alternatives, this alternative includes deepening and expansion of the main lagoon channels and reduction of upland elevations with deposition of material on the central lagoon shoal. As a result, this alternative would also result in extensive construction period modification to the existing wetland.

Alternative 1 provides a greater opportunity for the development of avian loafing and roosting islands due partly to the incorporation of smaller islands nearer to shorelines. The island would be been incorporated within an area of the main lagoon to provide for avian nesting opportunities. This island would be protected from human impacts that threaten the barrier beach avian area during the summer season and the island would not be subject to losses in the event of unseasonable summer breaching and barrier breach erosion. As such, this island is ideally suited to be configured to optimize suitability for nesting by such species as the snowy plover. Alternative 1 provides adequate protected habitat that would meet the requirements for gobies.

**Cultural Resources:** Although the overall footprint of change for Alternative 1 may be less than that occurring for the other alternatives it would require an extensive construction period modification to the existing wetland. Earth moving in the project area could encounter buried cultural resources and construction adjacent to the east side of the lagoon (Adamson House) could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less then significant through mitigation measures CR-1, CR-2, and CR-3.

**Hydrology and Water Quality:** Alternative 1 would minimally improve hydrology and water conditions in the lagoon. Creation of a mid-stream bar for additional bird habitat could worsen circulation conditions and increase sedimentation in the lagoon area. As a result, the concentration of nutrients could increase, thus promoting formation of eutrophic conditions. Therefore, this alternative could negatively contribute to impaired hydrology and water quality conditions in the lagoon.

**Consistency With Local and Regional Plans:** Alternative 1 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, the Alternative 1 is consistent with all applicable land uses and zoning designations.

**Construction Impacts:** Construction impacts for Alternative 1 would be less adverse than the proposed project due to the elimination of the Phase 1 parking lot redevelopment component.

## Alternative 1.75: Restore/Enhance Modify with the North Channel

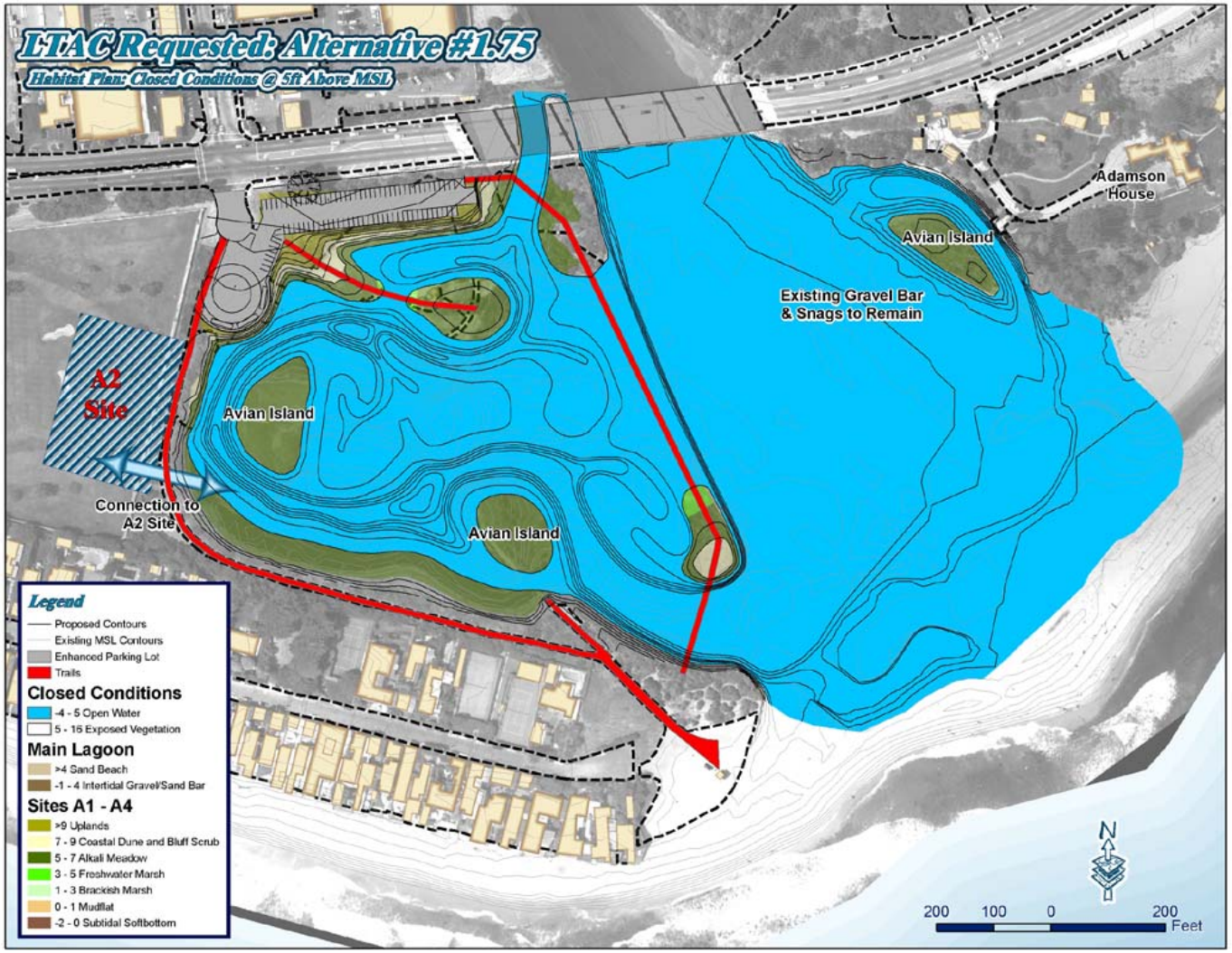
The Restore/Enhance Modify with the North Channel (see Figures 11-3 and 11-4) is a variation of the proposed project that includes the North Channel connection as an adaptive management tool. The North Channel may further improve flushing through the upper western arms and circulation during closed conditions. Further discussion of Alternative 1.75 can be found in the *Alternatives Analysis* on page 52.

Alternative 1.75 was intended to achieve:

- Tidal influence created by a single main channel with a naturalized dendritic planform more indicative of natural systems;

Figure 11-3. Alternative 1.75: Habitat Plan Open Conditions at 1 Foot below MSL

Figure 11-4. Alternative 1.75: Habitat Plan Closed Conditions at 5 Feet above MSL



- Increased tidal flushing during open conditions by deepening of the west lagoon (no work is proposed in the main lagoon). This will also increase holding capacity (storage volume);
- Enhanced and increased salt marsh environment during open conditions and maximized wind fetch to enhance wind-driven circulation during closed conditions;
- Permanent avian islands. These islands will be designed to afford better protection from predators and will be optimized to suit avian enhancement goals;
- Expanded wetland and marsh acreage by relocating the existing parking lot into degraded upland habitat. The new parking lot will be designed to be permeable to maximize water quality enhancements through naturalized filtration/infiltration;
- Increased flushing of sediments through the connection of the new North Channel;
- Opportunities for new visitor facilities and educational resources.

**Biological Resources:** Improved water circulation predicted for Alternative 1.75 is expected to improve goby refuge habitat during catastrophic breach events by minimizing anoxic conditions in deeper pools and isolated channels. Alternative 1.75 provides adequate protected habitat that would meet the requirements for gobies.

Alternative 1.75 would result in an increase of 1.78 acres of wetland habitat, which is 0.04 acres less than the proposed project.

**Cultural Resources**: Alternative 1.75 and the proposed project are the least impacting alternatives in regards to overall earthwork and construction impacts. Alternative 1.75 will have 37,571 cubic yards of cut and 16,329 cubic yards of fill compared to the proposed program that will result in 34,793 cubic yards of cut and 16,329 cubic yards of fill. However, earth moving in the project area could encounter buried cultural resources; construction adjacent to the east (Adamson House) side of the lagoon could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less then significant through mitigation measures CR-1, CR-2, and CR-3.

**Hydrology and Water Quality:** Alternative 1.75 would have the greatest beneficial impact on the lagoon in terms of hydrology and water quality. Compared to the other alternatives, Alternative 1.75 would have the most positive effects on the lagoon due to increased circulation, holding capacity, scour potential, and consequent reduced eutrophic conditions. During open and closed lagoon conditions, this alternative would provide optimal water circulation. This translates to increased scour and reduced sedimentation during stormflows. Consequently, the potential for formation of eutrophic conditions would be reduced due to

improved nutrient cycling. Alternative 1.75 would optimally restore hydrology and water quality in the lagoon.

**Consistency with Local and Regional Plans:** Alternative 1.75 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon (project site) is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, Alternative 1.75 is consistent with all applicable land uses and zoning designations.

**Construction Effects:** Construction impacts for alternative 1.75 would be similar to those of the proposed project.

# Alternative 2.0: Restore and Enhance Alternative

The Restore and Enhance Alternative (see Figures 11-5 and 11-6) intends to restore and enhance those areas that have diminished in functions or are in a currently degraded state.

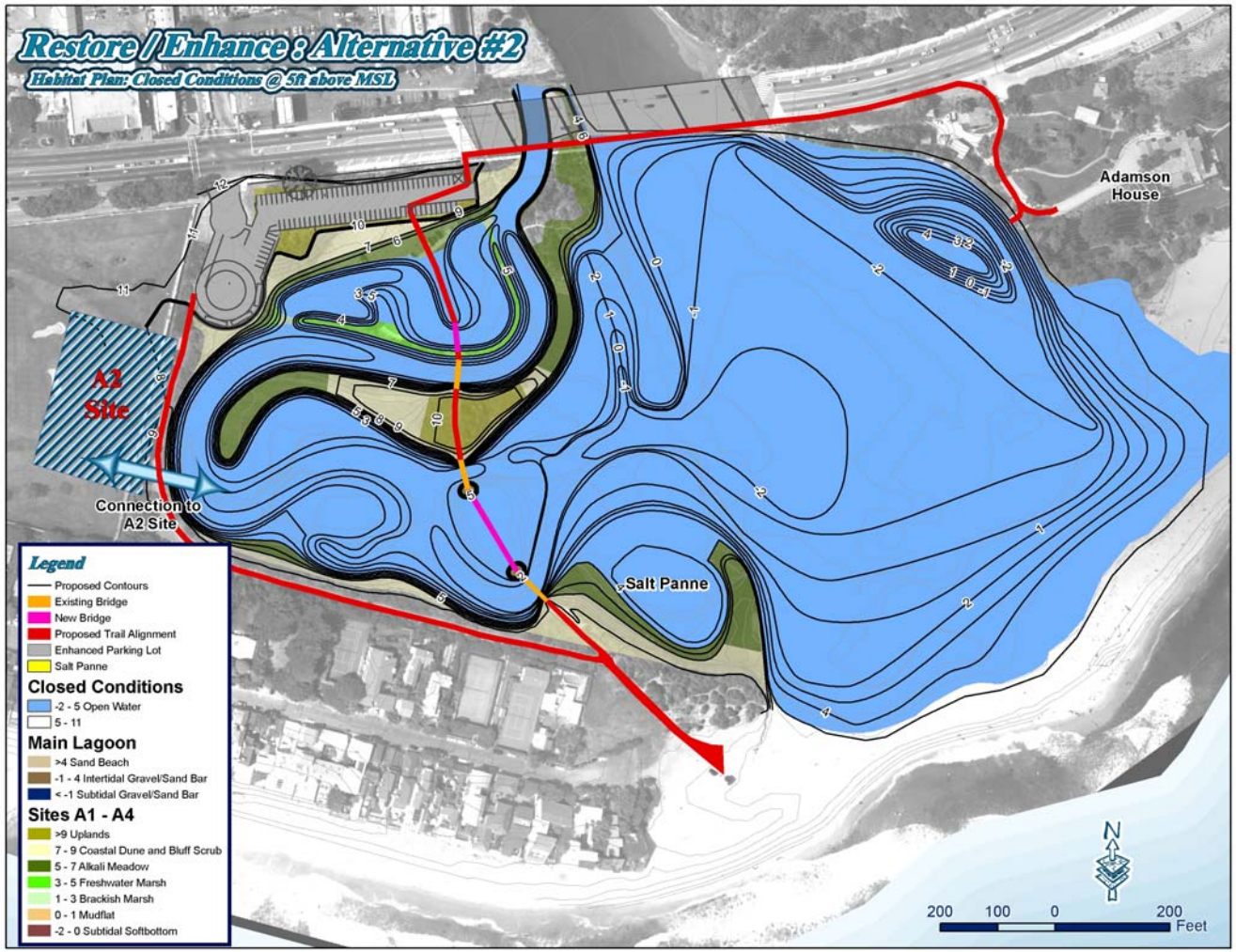
The proposed new North Channel connection is meant to convey an appropriate source of drainage from upstream that could include the Cross Creek storm drain, the main creek, or both. The North Channel would act as a connection between the upper end of the western arm to the Cross Creek storm drain, the main creek or both under a western bent on the PCH Bridge. The purpose is to convey a limited stormflow discharge into the upstream end of the western arms to flush fine sediment from the western lagoon. Further discussion of Alternative 2 can be found in the *Alternatives Analysis* on pages 48 and 49.

Alternative 2.0 was intended to achieve:

- Tidal influence created by a single sinuous main channel;
- Increased tidal flushing during open conditions by deepening of the west lagoon (no work is proposed in the main lagoon). This would also increase holding capacity (storage volume);
- Enhanced and increased salt marsh environment during open conditions and maximized wind fetch to enhance wind-driven circulation during closed conditions; and
- Unvegetated avian areas through the creation of a salt panne. The salt panne is intended to create an unvegetated area that uses a depression to capture water that would subsequently evaporate leaving behind higher salts in the soils that would minimize vegetative growth.

Figure 11-5. Alternative 2: Habitat Plan Open Conditions at 1 Foot below MSL

Figure 11-6. Alternative 2: Habitat Plan Closed Conditions at 5 Feet above MSL



**Biological Resources:** Alternative 2 would result in an estimated 1.22-acre increase in wetland habitat, which is 0.6 acres less than the proposed project. The proposed project and Alternative 2 provide the greatest potential for reworking site conditions to achieve desired vegetation improvements. Alternative 2 in addition to all of the alternatives provides adequate protected habitat that would meet the requirements for gobies.

**Cultural Resources:** More excavation (54,139 cubic yards of cut and 15,772 cubic yards of fill) would occur with Alternative 2 as the west arm channel is larger and deeper than other alternatives, and the bar at the main lagoon is removed thus causing a greater level of impact. Again, this earth moving could encounter buried cultural resources; construction adjacent to the east (Adamson House) side of the lagoon could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less then significant through mitigation measures CR-1, CR-2, and CR-3.

**Hydrology and Water Quality:** Alternative 2 would maximize circulation and encourage flushing of sediment from the lagoon area during storm events. Water quality benefits from this alternative would involve potential reduction in nutrient concentrations, thus decreasing the formation of eutrophic conditions. When compared to existing conditions, Alternative 2 would improve hydrologic and water quality conditions. In comparison to the proposed project, Alternative 2 would improve conditions when the lagoon is open, but have a lesser beneficial impact on closed lagoon conditions.

**Consistency with Local and Regional Plans:** Alternative 2 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon (project site) is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, Alternative 2 is consistent with all applicable land uses and zoning designations.

**Construction Effects:** Construction impacts for Alternative 2 would be similar to those of the proposed project.

# Environmentally Superior Alternative

The environmentally superior alternative would be the No-Project Alternative because of the absence of any potential short-term environmental impacts. However, as discussed above, the No-Project Alternative would not fulfill any of the project objectives. Under the No-Project Alternative, the lagoon would not be restored, and consequently, the long term overall health of the habitat would be impaired.

According to the *State CEQA Guidelines*, if the environmentally superior alternative is the No-Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives. Based on the analysis presented above and summarized in Table 11-1, Alternative 1.75 would be the environmentally superior alternative. However, there is uncertainty as to whether Alternative 1.75 possesses the magnitude of the beneficial effects.